

REMARKS

The Official Action mailed October 30, 2009, has been received and its contents carefully noted. This response is filed within three months of the mailing date of the Official Action and therefore is believed to be timely without extension of time. Accordingly, the Applicant respectfully submits that this response is being timely filed.

The Applicant notes with appreciation the consideration of the Information Disclosure Statements filed on June 23, 2006; and July 15, 2008.

Claims 1-35 were pending in the present application prior to the above amendment. Claims 10-13 have been amended to better recite the features of the present invention, and the features of dependent claim 16 have been incorporated into independent claim 14. The Applicant notes with appreciation the indication of the allowability of claims 3, 4, 6, 7, 11, 12, 20-27 and 29-31 (Box 7, Office Action Summary, page 4, Paper No. 20081026). Accordingly, claims 1-15 and 17-35 are now pending in the present application, of which claims 1-5, 10 and 14 are independent. For the reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

The Official Action rejects claims 1, 2, 5, 8-10, 13-19, 28 and 32-35 as obvious based on the combination of U.S. Publication No. 2004/0087118 to Maegawa. The Applicant respectfully traverses the rejection because the Official Action has not made a *prima facie* case of obviousness.

As stated in MPEP §§ 2142-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some reason, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some reason to do so found

either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims. Claims 1, 2 and 5 recite emitting a laser beam which is a fundamental wave from a laser oscillator. Claim 10 recites emitting a first laser beam which is a fundamental wave from a laser oscillator. Claim 14 recites a solid state laser oscillator for emitting a laser beam which is a fundamental wave.

Also, claims 1 and 2 recite forming a semiconductor layer over a substrate. Independent claim 5 recites forming a conductive layer over a substrate, forming an insulating layer adjacent to the conductive layer, and forming a semiconductor layer adjacent to the insulating layer.

For the reasons provided below, Maegawa does not teach or suggest the above-referenced features of the present invention.

One feature of the present invention is that a laser beam emitted from a laser oscillator is a fundamental wave. The present specification notes a problem when a fundamental wave is put into a non linear optical element. Specifically, although it may be desirable to obtain harmonics from the non linear optical element, there may be a problem that the non linear optical element is damaged by a non linear optical effect such as multiphoton absorption (please see page 4, lines 5-10).

The Official Action concedes that "Maegawa et al is silent with respect to a [fundamental] wavelength" (page 2, Paper No. 20081026). The Official Action asserts that "[it] would have been obvious to one of ordinary skill in the art at the time of the invention that the disclosure made by Maegawa et al encompasses a fundamental

wavelength because Maegawa et al disclose that the laser light is of a wavelength at which silicon undergoes multiphoton absorption" (page 3, Id.). The Applicant respectfully disagrees and traverses the assertions in the Official Action.

Maegawa appears to teach that "a coherent light onto a semiconductor ... has a wavelength at which multi-phonon lattice absorption of the semiconductor occurs" (§ 9). However, Maegawa does not teach or suggest that a laser beam emitted from a laser oscillator is necessarily a fundamental wave.

Further, Maegawa does not teach or suggest forming a semiconductor layer over a substrate recited in claims 1 and 2, or forming a conductive layer over a substrate, forming an insulating layer adjacent to the conductive layer, and forming a semiconductor layer adjacent to the insulating layer recited in claim 5. The Official Action fails to address these features. Rather, Maegawa appears to disclose a device formed from a silicon substrate. The Applicant respectfully submits that Maegawa does not teach or suggest forming a semiconductor layer over a substrate, or forming a conductive layer over a substrate, forming an insulating layer adjacent to the conductive layer, and forming a semiconductor layer adjacent to the insulating layer.

Since Maegawa does not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

The Official Action rejects claims 14 and 16-19 as obvious based on U.S. Publication No. 2006/0144828 to Fukumitsu. The Official Action rejects claim 15 as obvious based on the combination of Fukumitsu and U.S. Publication No. 2002/0041444 to Kahlert. The Applicant respectfully submits that a *prima facie* case of obviousness cannot be maintained against the independent claims of the present application, as amended. Independent claim 14 has been amended to recite that "the laser beam which is the fundamental wave has a repetition rate of 10 MHz or higher," which is based on previously pending dependent claim 16. The Official Action does not

appear to address this feature, and the Applicant respectfully submits that Fukumitsu and Kahlert do not teach or suggest at least the above-referenced features of claim 14.

Since Fukumitsu and Kahlert do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

At this opportunity, claim 10 has been amended to recite a method for manufacturing a semiconductor device comprising irradiating a semiconductor. The Applicant respectfully submits that Fukumitsu and Kahlert, either alone or in combination, do not teach or suggest at least the above-referenced features of claim 10.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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